tical ceiling tile and roofing insu-
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est and other parts of the United
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nufacture of Fir-Tex products at
ty, which supplies one-fourth of
's total insulating production.

BRIEF FACTS
ABOUT ST. HELENS PLANT...

- Plant occupies a 175-acre site near St. Helens on the Columbia River.
- Approximately 9,600,000 cubic feet of wood chips, mostly Douglas Fir, are used each year.
- Annual capacity of the plant is more than 120,000,000 square feet of half-inch board.
- More than 350 acoustical and insulating products are manufactured here.
- Fourdrinier board forming machine is a modern refinement of the 19th Century paper-making machine developed in England by the Fourdrinier brothers.
- Plant's operation uses 2,500 gallons of water a minute.
- Dryer is 365 feet long and removes 64,000 gallons of water per day.
- Gas used to operate the dryer and other facilities costs about $1,000 per day.
- Approximately 300 men are employed at the plant.
- Annual payroll and local purchases are approximately $3,500,000.

KAISER GYPSUM COMPANY, INC.
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Oakland 12, California

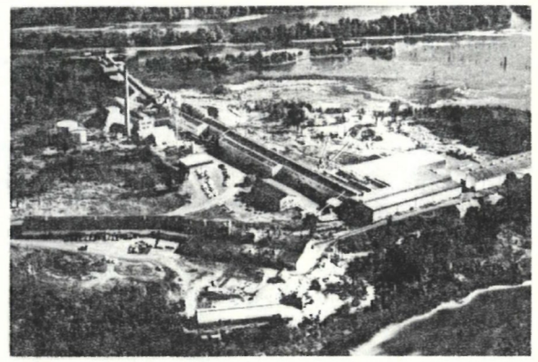
Northern Division Sales Offices
633 Terminal Sales Building
1220 S.W. Morrison Street
Portland, Oregon
Telephone: CApitol 6-7651

5913 E. Marginal Way S.
Seattle, Washington
Telephone: PArkway 5-7200

Plant layout, inside pamphlet

. . . your tour of
Kaiser Gypsum Company's
Fir-Tex Insulating Products Plant

ST. HELENS

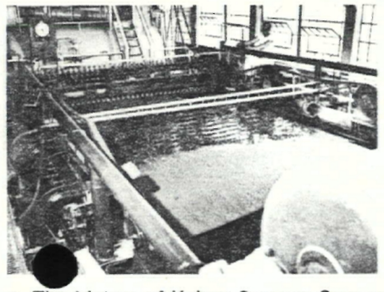


KAISER

KAISER GYPSUM COMPANY

WELCOME to St. Helens, Oregon, and Kaiser Gypsum Company's Fir-Tex insulating products plant. It is a pleasure to have you as our guest, and we hope your visit will be a pleasant and informative one. This plant converts wood chips into more than 350 highly useful and decorative building materials for homes and commercial structures. The ones you know most familiarly

Helens is a vital link in the growth and progress of Kaiser Gypsum Company

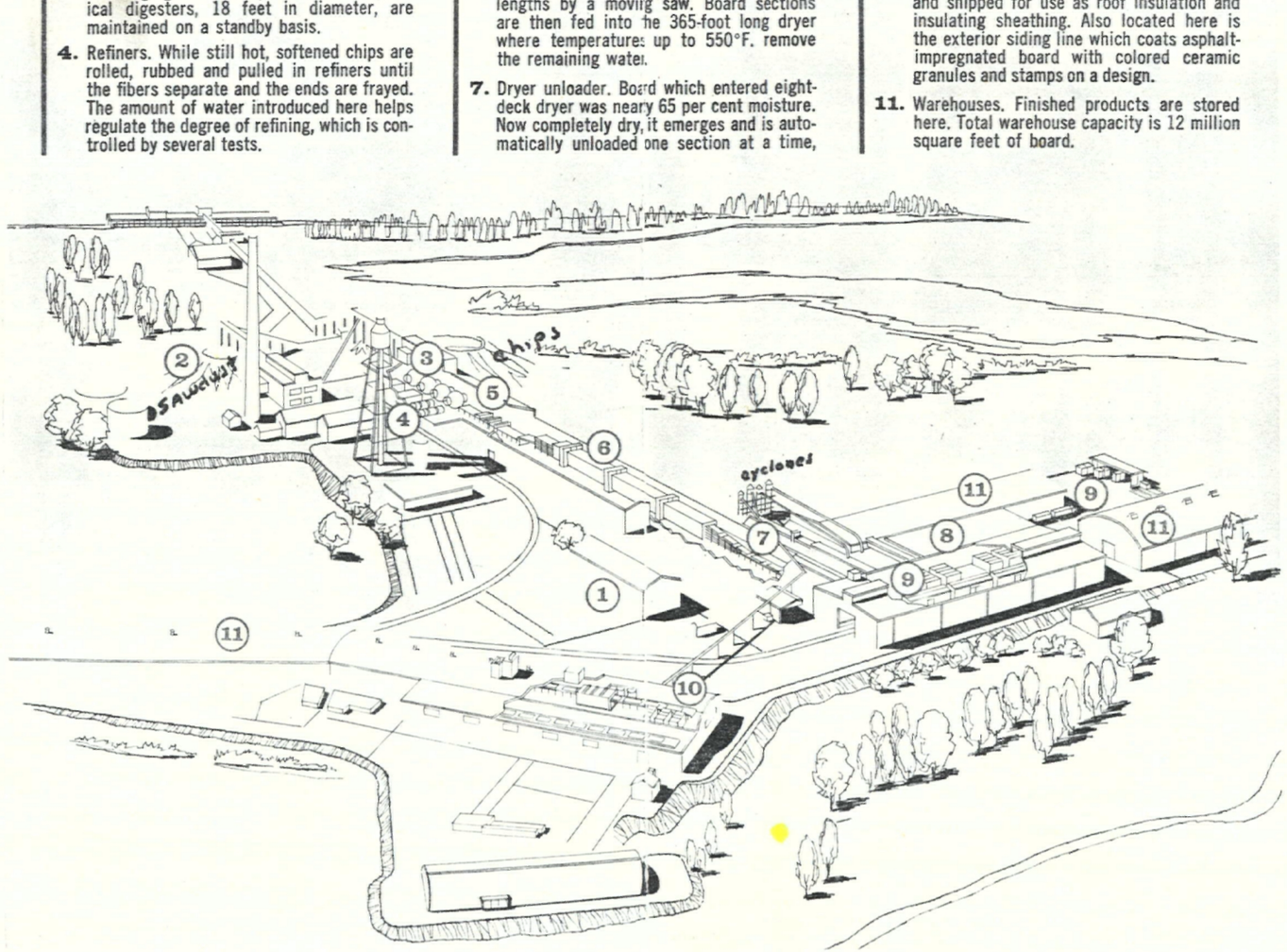


BOARD is formed as water is removed from wood fibers in solution.

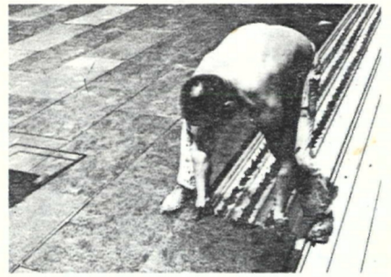
• The history of Kaiser Gypsum Company is one of expansion to meet the West's ever-increasing demands for quality building products. A landmark in the company's pattern of growth was the purchase of the 26-year-old St. Helens Fir-Tex plant in 1956, which added a wide range of insulating board products to the company's extensive line of gypsum building materials. Although Kaiser Gypsum can trace its corporate beginnings back to 1922, it wasn't until 1948 that the company took on the shape and direction of growth and service which are its hallmarks today. It was in that year that the firm became a full-fledged member of the Kaiser family of industries. In 1949, the company added a Northern California gypsum products plant to its facilities, which before had included only a single plant at Long Beach, California, and a gypsum quarry on San Marcos Island in the Gulf of California. In 1952, the firm became a wholly-owned subsidiary of Permanente Cement Company, another member of the Kaiser organization. This was followed by further expansion, which included construction of a gypsum products plant at Seattle in 1954 and the purchase of the St. Helens plant two years later. The Northern California gypsum plant at Redwood City was replaced by a larger, more modern facility at Antioch, Calif., in 1956, and in 1960 a gypsum products plant was completed at Rosario, New Mexico. The Rosario plant marked the company's first significant move away from the West Coast and points the way toward future expansion and coast-to-coast marketing. •

WOOD CHIP residue from lumber mills is made into over 350 useful products.

1. Office and laboratory. The plant's administrative offices and specially-equipped quality control and research lab are located here. The lab's highly-skilled staff conducts research to develop and improve the plant's acoustical and insulating products.
2. Chip piles. Douglas fir, spruce, hemlock and white fir chips, purchased under rigid quality control standards from nearby wood-processing mills, are stockpiled here. They are brought in by rail, barge and truck.
3. Digesters. Chips are softened by cooking with steam in high-capacity digesters. The cylindrical digester, mounted at an angle, is a continuous-process machine that is constantly taking in raw chips at the top and discharging cooked chips below. Five spherical digesters, 18 feet in diameter, are maintained on a standby basis.
4. Refiners. While still hot, softened chips are rolled, rubbed and pulled in refiners until the fibers separate and the ends are frayed. The amount of water introduced here helps regulate the degree of refining, which is controlled by several tests.
5. Fourdrinier board forming machine. After refining, fibers in a water solution are treated with binding materials and preservatives and pumped into a vacuum chamber to remove entrapped air. Then the fiber stock, which is over 97 per cent water, flows onto the board machine at the rate of 2,000 gallons a minute. As the water is removed by draining, suction and squeezing, the fibers felt themselves into board. This plant also produces incombustible insulating and acoustical products, utilizing mineral wool fibers instead of wood chip fibers. Mineral wool fibers are introduced at this point in much the same manner as wood chip fibers.
6. Dryer. The continuous ribbon of board is painted, edge-trimmed and then cut into lengths by a moving saw. Board sections are then fed into the 365-foot long dryer where temperatures up to 550°F. remove the remaining water.
7. Dryer unloader. Board which entered eight-deck dryer was nearly 65 per cent moisture. Now completely dry, it emerges and is automatically unloaded one section at a time, ready for final finishing, wrapping and shipment, or for remanufacturing into hundreds of different products.
8. Remanufacturing. Various machines here process the basic board sections to turn them into many sizes and patterns of tile, plank, lay-in board for ceilings and other end products.
9. Shipping areas. Wrapped and boxed Fir-Tex products are shipped by truck and rail to customers throughout the U.S. In an average week, 15 to 20 trucks and 30 rail cars are loaded and sent on their way.
10. Asphalt board plant. Basic board sections are fed onto production lines here to be sprayed with hot asphalt, cooled, wrapped and shipped for use as roof insulation and insulating sheathing. Also located here is the exterior siding line which coats asphalt-impregnated board with colored ceramic granules and stamps on a design.
11. Warehouses. Finished products are stored here. Total warehouse capacity is 12 million square feet of board.



Ka er Gypsum converts "waste" into useful and b building material at St. H



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• Forests have been the friend of man sinc of his existence. In them he found the creatu gave him food and whose fur clothed him f elements. From trees themselves, man gai fire, branches for his shelter and bark and l boats. When civilized man crossed the Atl were made from trees, and in his new land, ued to serve the needs of man. Today, the for provide countless products to aid the comf ience of everyone. Foremost among these is the most extensively used building materials construction. At one time the residues fro and other wood-processing plants were clas and burned. Now they are converted to usa which are processed at the St. Helens Fir-T wide variety of building and insulating greatly conserving large quantities of wood was lost in flames. More than 30,000 cubi chips are processed at St. Helens every wor are softened by cooking, then shredded, pu rubbed until the fibers come apart. The pended in water and flowed onto a forming they weave or felt themselves into a contin board as the water is removed. The board rib lengths and completely dried in ovens, af "remanufactured" by various machines into 350 materials which are the end products of the St. Helens plant. •

ACOUSTICAL ceiling tile absorbs noise, adds beauty in homes and offices.